REMARKS

Upon entry of the above amendment, the claims will be 1 to 26 with claims 2, 3 and 9 to 26 withdrawn from consideration.

The above amendment is responsive to points set forth in the Final Rejection.

In this regard, above-amended claim 1 step (a) is based on Example 1 i.e. from page 22, line 24 to page 23, line 7 of the present specification where it is described that dermal papillae were treated with trypsin to become single cells and epidermal tissue was likewise treated to become single cells.

Step (b) is also based on Example 1 i.e. at page 23, lines 18 to 20.

The mixture of single cells can be transplanted into an incised epidermal site with a micro-syringe. This makes it possible to inject the mixture through a small incision in the skin by using a micro-syringe (Example 1, page 23, lines 24 to 25).

The significance of this amendment will become apparent from the discussion of the rejections on prior art.

Claims 1 and 8 stand rejected under 35 U.S.C. 102(b) as anticipated by Reynolds et al. (Development, 1996, 122: 3085-3094; document cited in Information Disclosure Statement).

This rejection is respectfully traversed.

Reynolds et al. discloses a transplantation of dermal papillae and epidermal cells for hair growth. In this method, the dermal papillae and epidermal cells are co-cultured in order to make both cells interact with each other.

The interaction between dermal papillae and epidermal cells prior to transplantation is thought to be essential in the method of Reynolds et al. Thus, by the co-culturing, the dermal papillae and the epidermal cells interact in a culture state, as within natural skin. This means, however, the co-cultured cells are transplanted in a clumpy form for maintaining their interaction. As a consequence, a larger incision is necessary for transplanting the clumpy cells.

In contrast, the presently claimed method is based on the novel finding that a transplantation of a mixture of (dissociated) single cells (i.e. not interacted cells) can induce a follicle having the ability for generating a hair shaft.

Thus, it is clear that Reynolds et al. fails to anticipate the present claims which require the use of single cells.

Claims 1 and 4 to 8 stand rejected under 35 U.S.C. 103(a) as unpatentable over Wolowacz et al. (U.S. 2003/0161815 A1) in view of Reynolds et al. (Development, 1996, 122: 3085-3094; document cited in Information Disclosure Statement).

This rejection is also respectfully traversed.

In the present method, dermal papillae cells and epidermal cells are transplanted into an incision of the dermal layer. The very fact that an incision is made and that both cells are injected therein results in hair formation since the injected cells create not only hair follicles but also an epidermal layer.

The newly created hair follicle and epidermal layer induce a hair pore through which hair shaft can develop onto skin surface.

Wolowacz et al., in contrast, utilizes the existing epidermal layer by employing an injection of papillae cells only, and therefore, hair pores might not be induced.

As discussed above, Reynolds et al. requires interactive cells and thus cannot overcome the deficiencies of Wolowacz et al.

To apply the teachings of Wolowacz et al. to Reynolds et al. would require ignoring the requirement of Reynolds et al. that the cells in issue be co-cultured and the requirement of Wolowacz et al. to use existing epidermal cells.

It is only by reading the present disclosure that the art-skilled might attempt in some way to apply Wolowacz et al.'s single cells in Reynolds et al.'s culture method or vice versa.

Accordingly, the rejection on Wolowacz et al. in view of Reynolds et al. is untenable.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Katsutoshi YOSHIZATO et al.

By: _____

Matthew M. Jacob
Registration No. 25,154
Attorney for Applicants

MJ/aas
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
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